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☐ 1. Document ID: US 20050107074 A1

Using default format because multiple data bases are involved.

L6: Entry 1 of 9

File: PGPB

May 19, 2005

PGPUB-DOCUMENT-NUMBER: 20050107074

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050107074 A1

TITLE: Method, system, and storage medium for providing comprehensive originator identification services

PUBLICATION-DATE: May 19, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Zellner, Samuel	Dunwoody	GA	US

US-CL-CURRENT: 455/415; 455/414.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KINC	Draw Desc	Image
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☐ 2. Document ID: US 20040066305 A1

L6: Entry 2 of 9

File: PGPB

Apr 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040066305

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040066305 A1

TITLE: Apparatus for communicating with law enforcement during vehicle travel and associated methods

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KINC	Draw Desc	Image
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☐ 3. Document ID: US 20030062998 A1

L6: Entry 3 of 9

File: PGPB

Apr 3, 2003

PGPUB-DOCUMENT-NUMBER: 20030062998

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030062998 A1

TITLE: Apparatus for communicating with law enforcement during vehicle travel and associated methods

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 4. Document ID: US 6943703 B2

L6: Entry 4 of 9

File: USPT

Sep 13, 2005

US-PAT-NO: 6943703

DOCUMENT-IDENTIFIER: US 6943703 B2

TITLE: Apparatus for communicating with law enforcement during vehicle travel and associated methods

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 5. Document ID: US 6850974 B2

L6: Entry 5 of 9

File: USPT

Feb 1, 2005

US-PAT-NO: 6850974

DOCUMENT-IDENTIFIER: US 6850974 B2

TITLE: System, method and computer program product for constructing a network-based filtering and aggregating platform

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 6. Document ID: US 6675178 B1

L6: Entry 6 of 9

File: USPT

Jan 6, 2004

US-PAT-NO: 6675178

DOCUMENT-IDENTIFIER: US 6675178 B1

** See image for Certificate of Correction **

TITLE: Method and system for enhancing a commercial transaction conducted via a communications network

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 7. Document ID: US 6621422 B2

L6: Entry 7 of 9

File: USPT

Sep 16, 2003

US-PAT-NO: 6621422

DOCUMENT-IDENTIFIER: US 6621422 B2

TITLE: Apparatus for communicating with law enforcement during vehicle travel and associated methods

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 8. Document ID: US 20050262359 A1

L6: Entry 8 of 9

File: DWPI

Nov 24, 2005

DERWENT-ACC-NO: 2006-008646

DERWENT-WEEK: 200601

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TITLE: Apparatus for enhancing client-server communication for database management system, has security facility embedded in communication class library, which is automatically activated based on request from client application

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	MMI	Draw Desc	Clip Img	Ima
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☐ 9. Document ID: AU 2001232689 B2, WO 200239355 A1, AU 200132689 A, EP 1342184 A1

L6: Entry 9 of 9

File: DWPI

May 5, 2005

DERWENT-ACC-NO: 2002-479880

DERWENT-WEEK: 200535

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TITLE: Method of enhancing a commercial transaction conducted over a communications network by updating a second configuration database with changes in a first database within a given maximum period

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	MMI	Draw Desc	Image
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☐ 1. Document ID: US 20050262359 A1

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L2: Entry 1 of 2

File: DWPI

Nov 24, 2005

DERWENT-ACC-NO: 2006-008646

DERWENT-WEEK: 200601

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TITLE: Apparatus for enhancing client-server communication for database management system, has security facility embedded in communication class library, which is automatically activated based on request from client application

INVENTOR: PALECEK, L D

PRIORITY-DATA: 2004US-0848900 (May 19, 2004)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20050262359 A1	November 24, 2005		012	H04L009/00

INT-CL (IPC): H04 L 9/00

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Draw Desc	Clip img	Ima
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☐ 2. Document ID: AU 2001232689 B2, WO 200239355 A1, AU 200132689 A, EP 1342184 A1

L2: Entry 2 of 2

File: DWPI

May 5, 2005

DERWENT-ACC-NO: 2002-479880

DERWENT-WEEK: 200535

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TITLE: Method of enhancing a commercial transaction conducted over a communications network by updating a second configuration database with changes in a first database within a given maximum period

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1 [Rotating combined queueing \(RCQ\): bandwidth and latency guarantees in low-cost, high-performance networks](#)



Jae H. Kim, Andrew A. Chien

 May 1996 **ACM SIGARCH Computer Architecture News , Proceedings of the 23rd annual international symposium on Computer architecture ISCA '96**, Volume 24 Issue 2

Publisher: ACM Press

Full text available: pdf(1.39 MB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Network service guarantees not only provide significant performance benefits to distributed computing systems (more balanced resource utilization, fast fault recovery, and fair network access), but they are also essential for many new applications requiring real-time communications with continuous data types (audio/video). Most existing algorithms which provide network service guarantees are too complicated to be feasible in high-speed, low-cost switches for multicomputer networks. The simpler a ...

2 [Session 1C: human interactions and perceptions: Supporting social human communication between distributed walk-in displays](#)



David Roberts, Robin Wolff, Oliver Otto, Dieter Kranzmueller, Christoph Anthes, Anthony Steed

 November 2004 **Proceedings of the ACM symposium on Virtual reality software and technology VRST '04**

Publisher: ACM Press

Full text available: pdf(1.05 MB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Future teleconferencing may enhance communication between remote people by supporting non-verbal communication within an unconstrained space where people can move around and share the manipulation of artefacts. By linking walk-in displays with a Collaborative Virtual Environment (CVE) platform we are able to physically situate a distributed team in a spatially organised social and information context. We have found this to demonstrate unprecedented naturalness in the use of space and body during ...

Keywords: CVE, consistency control, event traffic, human interaction

3 [Managing energy and server resources in hosting centers](#)



Jeffrey S. Chase, Darrell C. Anderson, Prachi N. Thakar, Amin M. Vahdat, Ronald P. Doyle

 October 2001 **ACM SIGOPS Operating Systems Review , Proceedings of the eighteenth ACM symposium on Operating systems principles SOSP '01**, Volume 35 Issue 5

Publisher: ACM Press

Full text available:  pdf(1.61 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Internet hosting centers serve multiple service sites from a common hardware base. This paper presents the design and implementation of an architecture for resource management in a hosting center operating system, with an emphasis on *energy* as a driving resource management issue for large server clusters. The goals are to provision server resources for co-hosted services in a way that automatically adapts to offered load, improve the energy efficiency of server clusters by dynamically res ...


4 [Emerging applications: PPay: micropayments for peer-to-peer systems](#)



Beverly Yang, Hector Garcia-Molina

October 2003 **Proceedings of the 10th ACM conference on Computer and communications security**

Publisher: ACM Press

Full text available:  pdf(295.35 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Emerging economic P2P applications share the common need for an efficient, secure payment mechanism. In this paper, we present PPay, a micropayment system that exploits unique characteristics of P2P systems to maximize efficiency while maintaining security properties. We show how the basic PPay protocol far outperforms existing micropayment schemes, while guaranteeing that all coin fraud is detectable, traceable and unprofitable. We also present and analyze several extensions to PPay that furthe ...

Keywords: micropayments, peer-to-peer

5 [The role of telecommuting in an integrated workplace: the WorkSmart project](#)



Paul Gray, M. Lynne Markus, Steve PonTell

April 1996 **Proceedings of the 1996 ACM SIGCPR/SIGMIS conference on Computer personnel research**

Publisher: ACM Press

Full text available:  pdf(1.63 MB) Additional Information: [full citation](#), [references](#), [index terms](#)

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1 [Session 1C: human interactions and perceptions: Supporting social human communication between distributed walk-in displays](#)



David Roberts, Robin Wolff, Oliver Otto, Dieter Kranzmueller, Christoph Anthes, Anthony Steed

 November 2004 **Proceedings of the ACM symposium on Virtual reality software and technology VRST '04**

Publisher: ACM Press

Full text available: [pdf\(1.05 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Future teleconferencing may enhance communication between remote people by supporting non-verbal communication within an unconstrained space where people can move around and share the manipulation of artefacts. By linking walk-in displays with a Collaborative Virtual Environment (CVE) platform we are able to physically situate a distributed team in a spatially organised social and information context. We have found this to demonstrate unprecedented naturalness in the use of space and body during ...

Keywords: CVE, consistency control, event traffic, human interaction

2 [Lowering latency in Linux: introducing a preemptible kernel](#)



Robert Love

May 2002 **Linux Journal**, Volume 2002 Issue 97

Publisher: Specialized Systems Consultants, Inc.

Full text available: [html\(12.96 KB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Love explains just how this kernel patch does its magic.

3 [Security: SECA: security-enhanced communication architecture](#)



Joel Coburn, Srivaths Ravi, Anand Raghunathan, Srimat Chakradhar

 September 2005 **Proceedings of the 2005 international conference on Compilers, architectures and synthesis for embedded systems CASES '05**

Publisher: ACM Press

Full text available: [pdf\(396.53 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In this work, we propose and investigate the idea of enhancing a System-on-Chip (SoC) communication architecture (the fabric that integrates system components and carries the communication traffic between them) to facilitate higher security. We observe that a wide range of common security attacks are manifested as abnormalities in the system-level communication traffic. Therefore, the communication architecture, with its global system-level visibility, can be used to detect them. The communicati ...

Keywords: AMBA Bus, access control, architecture, attacks, bus, communication, digital

rights management (DRM), intrusion detection, security, security-aware design, small embedded systems, system-on-chip (SoC)

4 Enhancing communication, facilitating shared understanding, and creating better artifacts by integrating physical and computational media for design



Ernesto Arias, Hal Eden, Gerhard Fisher

August 1997 **Proceedings of the conference on Designing interactive systems: processes, practices, methods, and techniques**

Publisher: ACM Press

Full text available: [pdf\(1.08 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: domain-oriented design environments, integration of different design media, new design methods, participatory design, shared understanding, symmetry of ignorance

5 Scalable lock-free dynamic memory allocation



Maged M. Michael

June 2004 **ACM SIGPLAN Notices , Proceedings of the ACM SIGPLAN 2004 conference on Programming language design and implementation PLDI '04**, Volume 39 Issue 6

Publisher: ACM Press

Full text available: [pdf\(213.94 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Dynamic memory allocators (malloc/free) rely on mutual exclusion locks for protecting the consistency of their shared data structures under multithreading. The use of locking has many disadvantages with respect to performance, availability, robustness, and programming flexibility. A lock-free memory allocator guarantees progress regardless of whether some threads are delayed or even killed and regardless of scheduling policies. This paper presents a completely lock-free memory allocator. It uses ...

Keywords: async-signal-safe, availability, lock-free, malloc

6 Airborne Battlefield Command and Control Center (ABCCC) III capacity study



Larry D. Cork, David R. Holmen

December 1991 **Proceedings of the 23rd conference on Winter simulation**

Publisher: IEEE Computer Society

Full text available: [pdf\(1.00 MB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

7 Area and performance tradeoffs in floating-point divide and square-root implementations



Peter Soderquist, Miriam Leeser

September 1996 **ACM Computing Surveys (CSUR)**, Volume 28 Issue 3

Publisher: ACM Press

Full text available: [pdf\(700.72 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Floating-point divide and square-root operations are essential to many scientific and engineering applications, and are required in all computer systems that support the IEEE floating-point standard. Yet many current microprocessors provide only weak support for these operations. The latency and throughput of division are typically far inferior to those of floating-point addition and multiplication, and square-root performance is often even lower. This article argues the case for high-perf ...

Keywords: FPU, SRT, area and performance tradeoffs, division, floating-point, square

root

8 Overlays: On selfish routing in internet-like environments



Lili Qiu, Yang Richard Yang, Yin Zhang, Scott Shenker

August 2003 **Proceedings of the 2003 conference on Applications, technologies, architectures, and protocols for computer communications**

Publisher: ACM Press

Full text available: [pdf\(187.73 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A recent trend in routing research is to avoid inefficiencies in network-level routing by allowing hosts to either choose routes themselves (e.g., source routing) or use overlay routing networks (e.g., Detour or RON). Such approaches result in *selfish* routing, because routing decisions are no longer based on system-wide criteria but are instead designed to optimize host-based or overlay-based metrics. A series of theoretical results showing that selfish routing can result in ...

Keywords: game theory, optimization, overlay, relaxation, selfish routing, traffic engineering, traffic equilibrium

9 Architectural and performance evaluation of GigaNet and Myrinet interconnects on clusters of small-scale SMP servers



Jenwei Hsieh, Tau Leng, Victor Mashayekhi, Reza Rooholamini

November 2000 **Proceedings of the 2000 ACM/IEEE conference on Supercomputing (CDROM)**

Publisher: IEEE Computer Society

Full text available: [pdf\(82.49 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)
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GigaNet and Myrinet are two of the leading interconnects for clusters of commodity computer systems. Both provide memory-protected user-level network interface access, and deliver low-latency and high-bandwidth communication to applications. GigaNet is a connection-oriented interconnect based on a hardware implementation of Virtual Interface (VI) Architecture and Asynchronous Transfer Mode (ATM) technologies. Myrinet is a connection-less interconnect which leverages packet switching technol ...

Keywords: performance evaluation, high-speed interconnects, messagepassing interface, clusters of SMP servers

10 Limits to low-latency communication on high-speed networks



Chandramohan A. Thekkath, Henry M. Levy

May 1993 **ACM Transactions on Computer Systems (TOCS)**, Volume 11 Issue 2

Publisher: ACM Press

Full text available: [pdf\(1.96 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The throughput of local area networks is rapidly increasing. For example, the bandwidth of new ATM networks and FDDI token rings is an order of magnitude greater than that of Ethernet. Other network technologies promise a bandwidth increase of yet another order of magnitude in several years. However, in distributed systems, lowered latency rather than increased throughput is often of primary concern. This paper examines the system-level effects of newer high-speed network technologies on I ...

Keywords: ATM networks, host-network interfaces, interprocess communication, remote procedure calls, transport level protocols

11 Comparing Ethernet and Myrinet for MPI communication

Supratik Majumder, Scott Rixner

October 2004 **Proceedings of the 7th workshop on Workshop on languages, compilers, and run-time support for scalable systems LCR '04**

Publisher: ACM Press

Full text available: [pdf\(320.41 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

This paper compares the performance of Myrinet and Ethernet as a communication substrate for MPI libraries. MPI library implementations for Myrinet utilize user-level communication protocols to provide low latency and high bandwidth MPI messaging. In contrast, MPI library implementations for Ethernet utilize the operating system network protocol stack, leading to higher message latency and lower message bandwidth. However, on the NAS benchmarks, GM messaging over Myrinet only achieves 5% higher ...

12 Token coherence: decoupling performance and correctness

Milo M. K. Martin, Mark D. Hill, David A. Wood

May 2003 **ACM SIGARCH Computer Architecture News , Proceedings of the 30th annual international symposium on Computer architecture ISCA '03**, Volume 31 Issue 2

Publisher: ACM Press

Full text available: [pdf\(269.08 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Many future shared-memory multiprocessor servers will both target commercial workloads and use highly-integrated "glueless" designs. Implementing low-latency cache coherence in these systems is difficult, because traditional approaches either add indirection for common cache-to-cache misses (directory protocols) or require a totally-ordered interconnect (traditional snooping protocols). Unfortunately, totally-ordered interconnects are difficult to implement in glueless designs. An ideal coherenc ...

13 Exploiting task-level concurrency in a programmable network interface

Hyong-youb Kim, Vijay S. Pai, Scott Rixner

June 2003 **ACM SIGPLAN Notices , Proceedings of the ninth ACM SIGPLAN symposium on Principles and practice of parallel programming PPOPP '03**, Volume 38 Issue 10

Publisher: ACM Press

Full text available: [pdf\(191.35 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Programmable network interfaces provide the potential to extend the functionality of network services but lead to instruction processing overheads when compared to application-specific network interfaces. This paper aims to offset those performance disadvantages by exploiting task-level concurrency in the workload to parallelize the network interface firmware for a programmable controller with two processors. By carefully partitioning the handler procedures that process various events related to ...

Keywords: ethernet, firmware, parallel programming, programmable network interface

14 Multicasting protocols for high-speed wormhole-routing local area networks

Mario Gerla, Prasasth Palnati, Simon Walton

August 1996 **ACM SIGCOMM Computer Communication Review , Conference proceedings on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '96**, Volume 26 Issue 4

Publisher: ACM Press

Full text available: [pdf\(110.64 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Wormhole routing LANs are emerging as an effective solution for high-bandwidth, low-latency interconnects in distributed computing and cluster computing applications. An important example is the 640 Mb/s crossbar-based Myrinet. A key property of conventional LANs, which is valuable for many distributed applications, is transparent,

reliable network-level multicast. It is desirable to retain this property also in wormhole LANs. Unfortunately, efficient, reliable multicasting in wormhole LANs is p ...

15 Ordered Multicast and Distributed Swap



 Maurice Herlihy, Srikanta Tirthapura, Roger Wattenhofer
January 2001 **ACM SIGOPS Operating Systems Review**, Volume 35 Issue 1


Publisher: ACM Press

Full text available:  [pdf\(587.36 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#)

A multicast protocol is *ordered* (or *totally ordered*) if it ensures that messages multicast to a group of nodes are delivered in the same order at each destination node, even when those messages are generated concurrently from several sources. Ordered multicast is a natural foundation for push-based cache coherence and certain kinds of middleware. This paper shows how to reduce the complex problem of enforcing multicast ordering to a simpler distributed coordination problem we call < ...

16 Promises and reality: Server I/O networks past, present, and future



 Renato John Recio
August 2003 **Proceedings of the ACM SIGCOMM workshop on Network-I/O convergence: experience, lessons, implications**

Publisher: ACM Press

Full text available:  [pdf\(225.62 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Enterprise and technical customers place a diverse set of requirements on server I/O networks. In the past, no single network type has been able to satisfy all of these requirements. As a result several fabric types evolved and several interconnects emerged to satisfy a subset of the requirements. Recently several technologies have emerged that enable a single interconnect to be used as more than one fabric type. This paper will describe the requirements customers place on server I/O networks; t ...

Keywords: 10 GigE, Cluster, Cluster Networks, Gigabit Ethernet, I/O Expansion Network, IOEN, InfiniBand, LAN, PCI, PCI Express, RDMA, RNIC, SAN, Socket Extensions, TOE, IONIC, iSCSI, iSER

17 Papers on software engineering education and training: course delivery and evaluation: Using a web-based project process throughout the software engineering curriculum



Donald J. Bagert, Susan A. Mengel
May 2003 **Proceedings of the 25th International Conference on Software Engineering**

Publisher: IEEE Computer Society

Full text available:  [pdf\(636.60 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)
 [Publisher Site](#)

In order to facilitate the study and use of software process, which is essential to the education of future software professionals, a standard and tailorable project process has been developed over the last five years at Texas Tech University for use in both undergraduate and graduate curricula, with a total 12 courses involved. The process is entirely web-based, and includes a complete set of HTML document templates in order to facilitate the creation of project artifacts which are posted to th ...

18 A multi-protocol cross-domain communication model for metacomputing systems



 Bi Peng, Xie Fei, Yang Guangwen, Wang Dingxing
April 2002 **ACM SIGOPS Operating Systems Review**, Volume 36 Issue 2

Publisher: ACM Press

Full text available:  [pdf\(1.06 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

Metacomputing system is a kind of heterogeneous and dynamic distributed computing system in WAN (Wide Area Network). Communication model of metasystems must tackle

the heterogeneous and dynamic problems, and has the ability to pass messages in WAN. After analyzing characteristics and deficiencies in common methods, this paper proposes a new communication model for metasystems. This model is based on Java, whose platform independence and data serialization hide the heterogeneity of various nodes ...

Keywords: communication, message passing, metacomputing, parallel/distributed computing

19 Session 1: Locality-preserving randomized oblivious routing on torus networks



Arjun Singh, William J. Dally, Brian Towles, Amit K. Gupta

August 2002 **Proceedings of the fourteenth annual ACM symposium on Parallel algorithms and architectures**

Publisher: ACM Press

Full text available: pdf(277.17 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We introduce *Randomized Local Balance* (RLB), a routing algorithm that strikes a balance between locality and load balance in torus networks, and analyze RLB's performance for benign and adversarial traffic permutations. Our results show that RLB outperforms deterministic algorithms (25% more bandwidth than Dimension Order Routing) and minimal oblivious algorithms (50% more bandwidth than 2 phase ROMM [9]) on worst-case traffic. At the same time, RLB offers higher throughput on local traff ...

Keywords: interconnection networks, k-ary n cubes, locality-preserving, oblivious packet routing, randomized

20 Managing latency in complex augmented reality systems



Marco C. Jacobs, Mark A. Livingston, Andrei State

April 1997 **Proceedings of the 1997 symposium on Interactive 3D graphics**

Publisher: ACM Press

Full text available: pdf(829.15 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

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